Dell Vostro 1540/1550
Owner's Manual

Regulatory Model P18F
Regulatory Type P18F001,P18F002

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Contents

Working on Your Computer 1

Before Working Inside Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that the following conditions exist:

- You have performed the steps in Working on Your Computer.
- You have read the safety information that shipped with your computer.
- A component can be replaced or--if purchased separately--installed by performing the removal procedure in reverse order.

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.

CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface, such as a connector on the back of the computer.

CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.

CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

NOTE: The color of your computer and certain components may appear differently than shown in this document.

To avoid damaging your computer, perform the following steps before you begin working inside the computer.

1. Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see *Turning Off Your Computer*).
3. If the computer is connected to a docking device (docked) such as the optional Media Base or Battery Slice, undock it.

CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.

4. Disconnect all network cables from the computer.
5. Disconnect your computer and all attached devices from their electrical outlets.
6. Close the display and turn the computer upside-down on a flat work surface.

NOTE: To avoid damaging the system board, you must remove the main battery before you service the computer.

7. Remove the main battery.
8. Turn the computer top-side up.
9. Open the display.
10. Press the power button to ground the system board.

CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the display.

CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

11. Remove any installed ExpressCards or Smart Cards from the appropriate slots.

Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver

- #0 Phillips screwdriver
- #1 Phillips screwdriver
- Small plastic scribe
- Flash BIOS update program CD

Turning Off Your Computer

CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

1. Shut down the operating system:

   - In Windows Vista :

     Click **Start** , then click the arrow in the lower-right corner of the **Start** menu as shown below, and then click **Shut Down**.

   - In Windows XP:
     Click **Start** → **Turn Off Computer** → **Turn Off** . The computer turns off after the operating system shutdown process is complete.
2. Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for about 4 seconds to turn them off.

After Working Inside Your Computer

After you complete any replacement procedure, ensure you connect any external devices, cards, and cables before turning on your computer.

CAUTION: To avoid damage to the computer, use only the battery designed for this particular Dell computer. Do not use batteries designed for other Dell computers.

1. Connect any external devices, such as a port replicator, battery slice, or media base, and replace any cards, such as an ExpressCard.
2. Connect any telephone or network cables to your computer.

CAUTION: To connect a network cable, first plug the cable into the network device and then plug it into the computer.

3. Replace the battery.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.

Removing The Battery

2

1. Follow the procedures in *Before Working On Your Computer*.
2. Slide the release latches to unlock the battery.



3. Slide the battery and remove it from the computer.



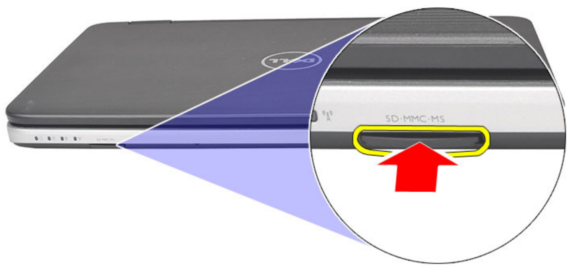
Installing The Battery

1. Slide the battery into its slot until it clicks into place.
2. Follow the procedures in *After Working Inside Your Computer*.

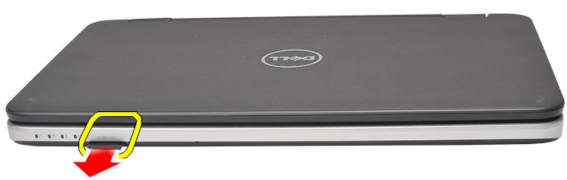
Removing The Secure Digital (SD) Card

3

1. Follow the procedures in *Before Working On Your Computer*.
2. Press in on the SD memory card to release it from the computer.



3. Slide the memory card out of the computer.



Installing The Secure Digital (SD) Card

1. Push the memory card into the compartment until it is fully engaged with a click sound.
2. Follow the procedures in *After Working Inside Your Computer*.

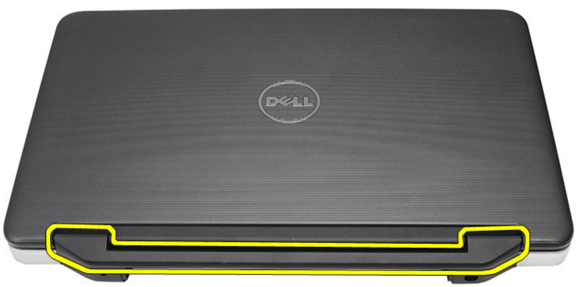
Removing The Hinge Cover

4

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the screws that secure the hinge cover.



4. Flip the computer around and remove the hinge cover.



Installing The Hinge Cover

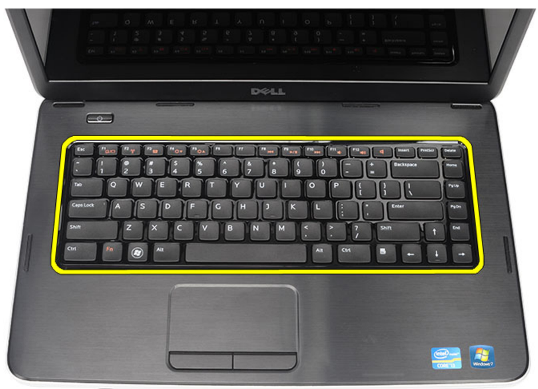
1. Install the hinge cover and press on it to secure its connection to the computer.
2. Flip the computer around and install the screws that secure the hinge cover.
3. Install the *battery*.
4. Follow the procedures in *After Working Inside Your Computer*.

Removing The Keyboard 5

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Pry up to release the top four snaps securing the keyboard to the computer.



4. Flip the keyboard over and lay it on the palm rest.



5. Disconnect the keyboard cable from the system board.



6. Remove the keyboard from the computer.



Installing The Keyboard

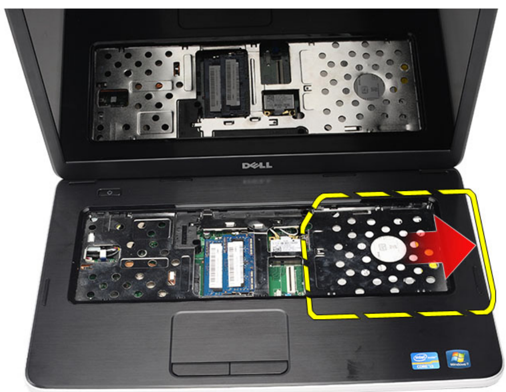
1. Connect the keyboard cable to the system board.
2. Insert the keyboard at an angle of 30 degrees to its compartment.
3. Press down on the keyboard to secure the top snaps.
4. Install the *battery*.
5. Follow the procedures in *After Working Inside Your Computer*.

Removing The Optical Disc Drive 6

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the screw that secures the optical drive.



5. Use a screwdriver to gently pry the optical drive out of the computer.

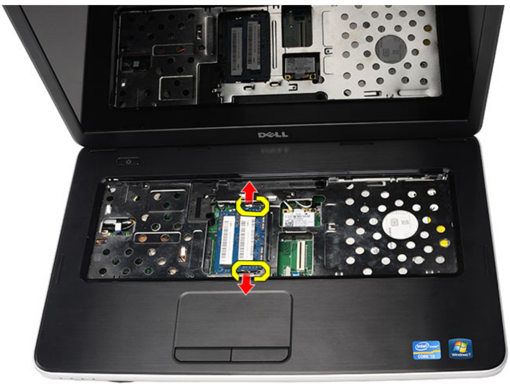


Installing The Optical Disc Drive

1. Slide the optical drive into the compartment on the left side of the chassis.
2. Tighten the screw to secure the optical drive to the computer.
3. Install the *keyboard*.
4. Install the *battery*.
5. Follow the procedures in *After Working Inside Your Computer*.

Removing The Memory Module 7

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Pry the retention clips away from the memory module until it pops up.



5. Remove the memory module from the computer.



Installing The Memory Module

1. Insert the memory module into the memory socket.
2. Press down on the memory module until the retention clips secure the memory module in place.
3. Install the *keyboard*.
4. Install the *battery*.
5. Follow the procedures in *After Working Inside Your Computer*.

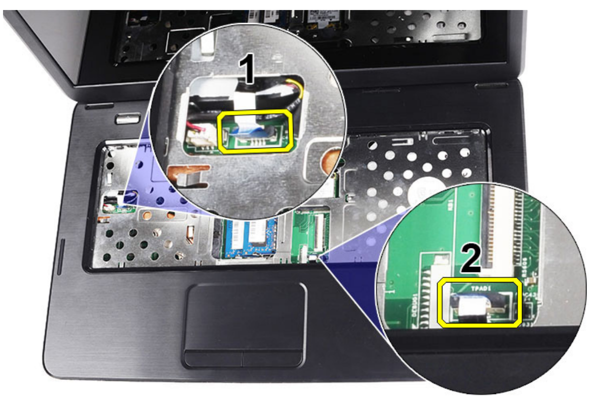
Removing The Palm Rest

8

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the screws that secure the bottom base.



5. Flip the computer around and disconnect the power board cable (1) and the touchpad cable (2).



6. Remove the screws that secure the palm rest to the computer.



7. Pry up the palm rest using a plastic scribe to release all the snaps on the bottom, left, and right sides of the palm rest. Once all the snaps have been released, lift up the palm rest from the computer and remove.



Installing The Palm Rest

1. Insert the palm rest towards the display screen at a 30–degree angle.
2. Align and adjust the palm rest into position before pressing it down to secure all the snaps.
3. Connect the power board cable and touchpad cable to their respective connectors.
4. Install the screws that secure the palm rest to the computer.
5. Flip the computer around and install the screws that secure the bottom base.
6. Install the *keyboard*.
7. Install the *battery*.
8. Follow the procedures in *After Working Inside Your Computer*.

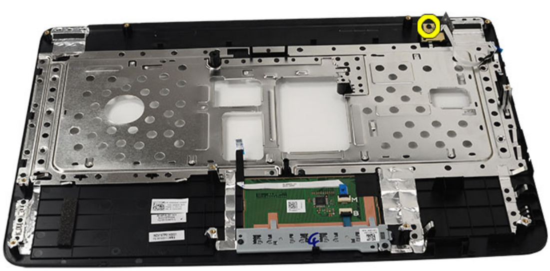
Removing The Power Button Board

9

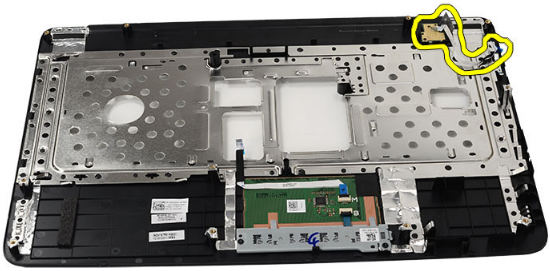
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *palm rest*.
5. Peel the power button board cable from the adhesive affixing it to the palm rest.



6. Flip the palm rest around and remove the screw that secures the power button board to the palm rest.



7. Lift up the power button board and release the power button board cable through the opening.



Installing The Power Button Board

1. Insert the power button board cable through the opening.
2. Fix the power button board to its compartment.
3. Install the screw to secure the power button board.
4. Flip the computer around and attach the power button board cable to the palm rest.
5. Install the *palm rest*.
6. Install the *keyboard*.
7. Install the *battery*.
8. Follow the procedures in *After Working Inside Your Computer*.

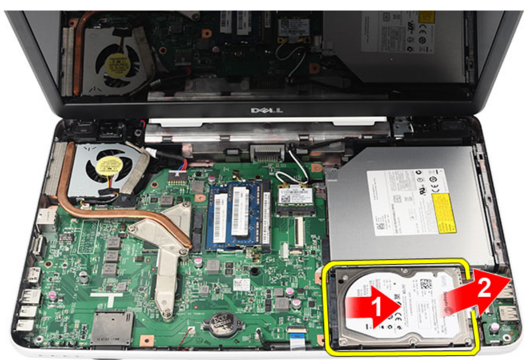
Removing The Hard Drive

10

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *palm rest*.
5. Slide the hard drive and lift it out of the computer.



6. Remove the screws that secure the hard drive bracket and detach it from the hard drive.



Installing The Hard Drive

1. Install the hard drive bracket to the hard drive.
2. Tighten the screws that secure the hard drive bracket.
3. Place the hard drive in its compartment and slide it towards the SATA connector to secure it to the system board.
4. Install the *palm rest*.
5. Install the *keyboard*.
6. Install the *battery*.
7. Follow the procedures in *After Working Inside Your Computer*.

Removing The Wireless Local Area Network (WLAN) Card 11

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *palm rest*.
5. Disconnect any antennae connected to the WLAN card.



6. Pry the latch to release the WLAN card from its compartment.



7. Remove the WLAN card from the computer.

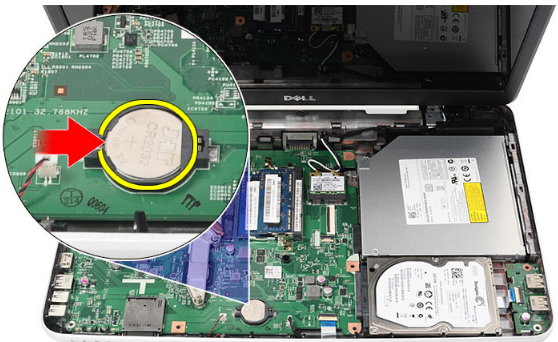


Installing The Wireless Local Area Network (WLAN) Card

1. Slide the WLAN card into its slot.
2. Clip on the WLAN card to the latch to secure it in place.
3. Connect the antennae according to the color code on the WLAN card.
4. Install the *palm rest*.
5. Install the *keyboard*.
6. Install the *battery*.
7. Follow the procedures in *After Working Inside Your Computer*.

Removing The Coin-Cell Battery 12

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *palm rest*.
5. Disconnect the coin-cell battery cable from the system board.



6. Remove the coin-cell battery from the computer.

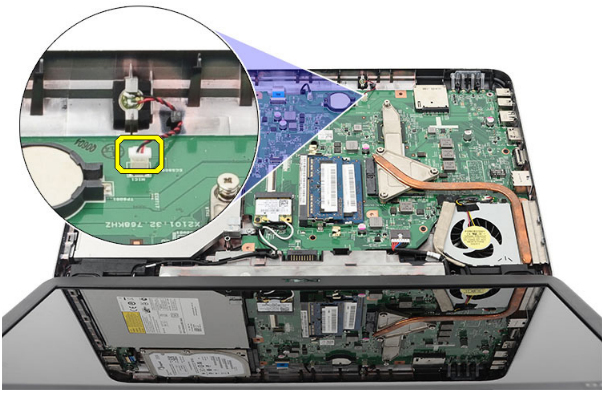


Installing The Coin-Cell Battery

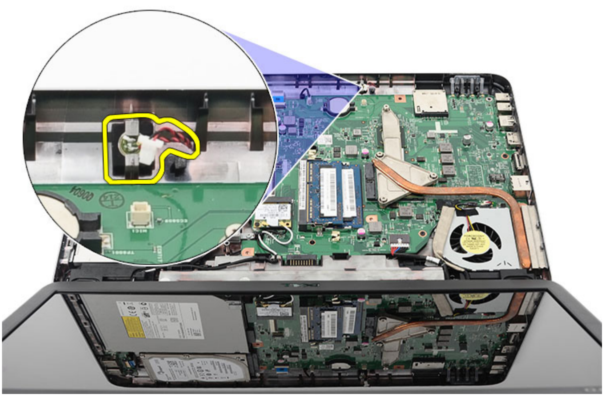
1. Install the coin-cell battery to the coin-cell battery compartment.
2. Connect the coin-cell battery cable to the system board.
3. Install the *palm rest*.
4. Install the *keyboard*.
5. Install the *battery*.
6. Follow the procedures in *After Working Inside Your Computer*.

Removing The USB Board 13

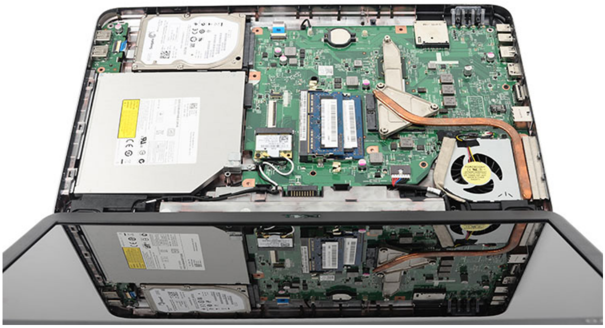
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *optical drive*.
5. Remove the *palm rest*.
6. Disconnect the USB board cable from the system board.



7. Remove the screw that secures the USB board.



8. Lift up the USB board and remove it from the computer.

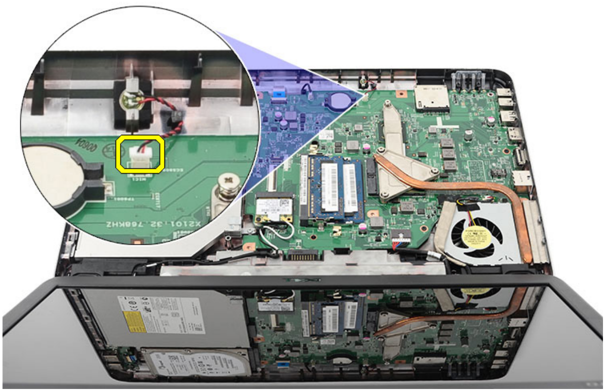


Installing The USB Board

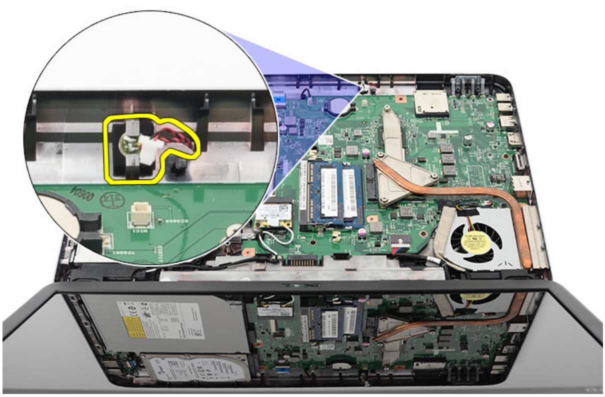
1. Insert and align the USB board into its compartment on the computer.
2. Install the screw that secures the USB board in place.
3. Connect the USB board cable to the system board.
4. Install the *palm rest*.
5. Install the *optical drive*.
6. Install the *keyboard*.
7. Install the *battery*.
8. Follow the procedures in *After Working Inside Your Computer*.

Removing The Microphone 14

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *palm rest*.
5. Disconnect the microphone cable from the system board.



6. Lift up and remove the microphone from its compartment.

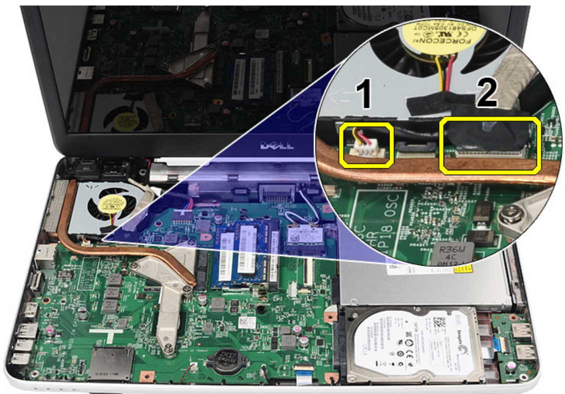


Installing The Microphone

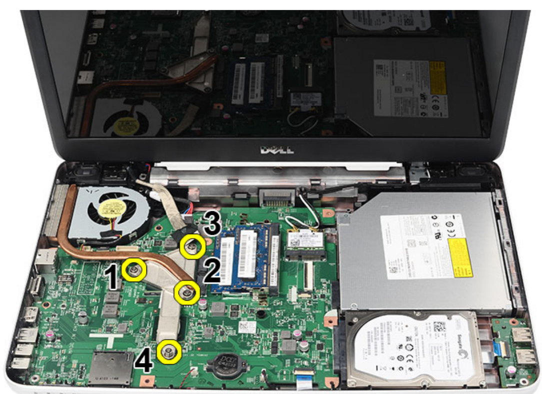
1. Insert and align the microphone into its compartment.
2. Connect the microphone cable to the system board.
3. Install the *palm rest*.
4. Install the *keyboard*.
5. Install the *battery*.
6. Follow the procedures in *After Working Inside Your Computer*.

Removing The CPU Fan Assembly And The Heatsink 15

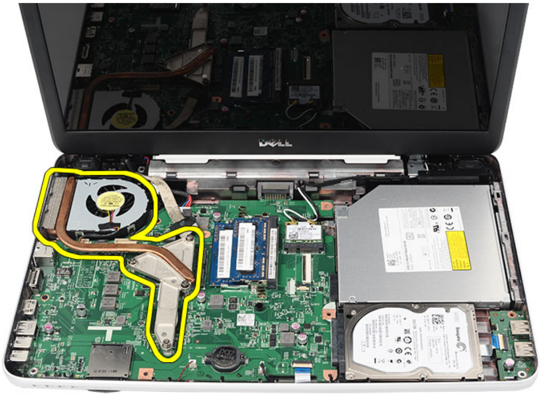
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *palm rest*.
5. Disconnect the CPU fan cable from the system board.



6. Remove the captive screws that secure the heat sink and CPU fan assembly by following the sequence in the image.



7. Remove the heat sink and the CPU fan assembly from the computer.

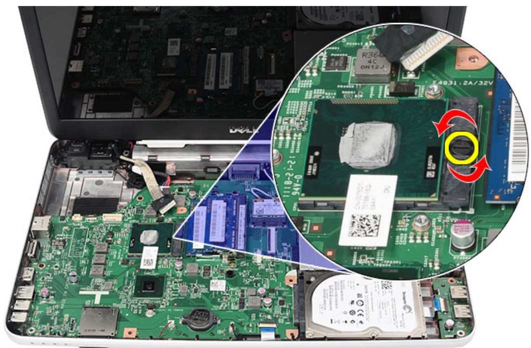


Installing The CPU Fan Assembly And The Heatsink

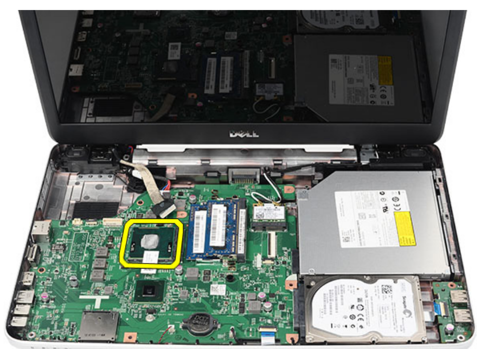
1. Place and align the heat sink and CPU fan assembly.
2. Tighten the captive screws to secure the heat sink and the CPU fan assembly.
3. Connect the CPU fan cable to the system board.
4. Install the *palm rest*.
5. Install the *keyboard*.
6. Install the *battery*.
7. Follow the procedures in *After Working Inside Your Computer*.

Removing The Processor 16

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *palm rest*.
5. Remove the *CPU fan assembly and the heatsink*.
6. Rotate the processor-cam screw in a counter-clockwise direction.



7. Lift up the processor and remove it from the computer.

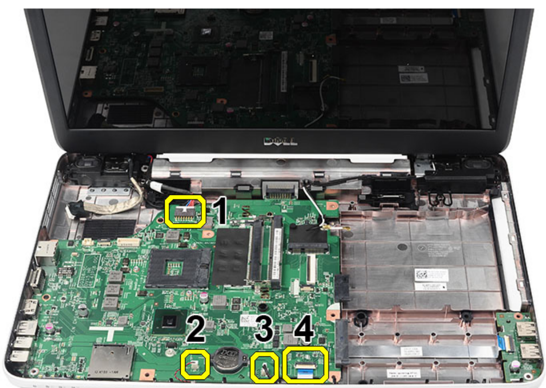


Installing The Processor

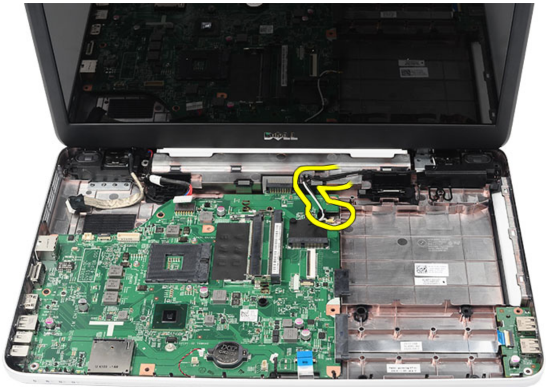
1. Insert the processor into the processor socket. Ensure the processor is properly seated.
2. Tighten the cam-screw in a clockwise direction to the locked position.
3. Install the *CPU fan assembly and the heatsink*.
4. Install the *palm rest*.
5. Install the *keyboard*.
6. Install the *battery*.
7. Follow the procedures in *After Working Inside Your Computer*.

Removing The System Board 17

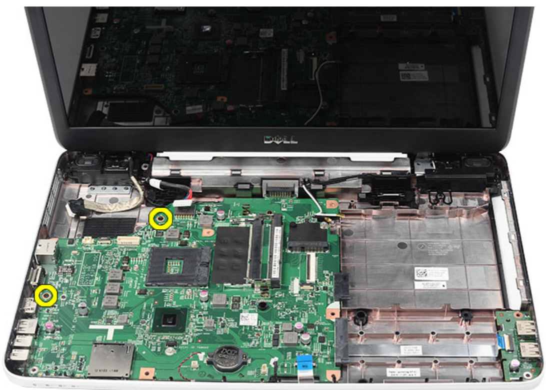
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *SD memory card*.
4. Remove the *keyboard*.
5. Remove the *optical drive*.
6. Remove the *memory module*.
7. Remove the *palm rest*.
8. Remove the *hard drive*.
9. Remove the *WLAN card*.
10. Remove the *CPU fan assembly and the heatsink*.
11. Disconnect the display cable (1), DC-in cable (2), USB board cable (3), speaker cable (4), audio board cable (5), and the coin-cell battery cable (6).



12. Remove the screws that secure the system board.



13. Lift up the system board at an angle and slide it out from the LAN, VGA, HDMI, and USB sockets.

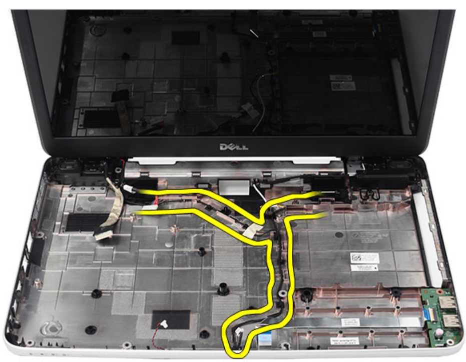


Installing The System Board

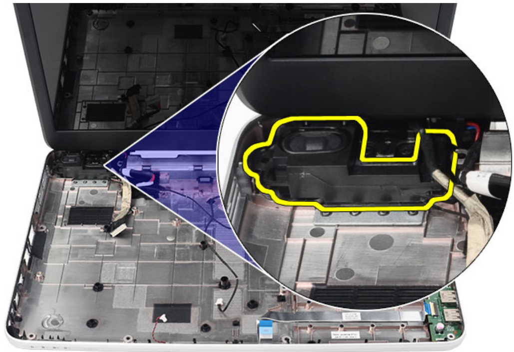
1. Insert the system board with the LAN, VGA, HDMI, and USB connectors into their respective sockets and align the system board in place.
2. Install the screws that secure the system board in place.
3. Connect the LCD cable, DC-in cable, USB board cable, audio board cable, coin-cell battery cable, and the speaker cable.
4. Install the *processor*.
5. Install the *CPU fan assembly and the heatsink* .
6. Install the *WLAN card*.
7. Install the *hard drive*.
8. Install the *palm rest*.
9. Install the *memory module*.
10. Install the *optical drive*.
11. Install the *keyboard*.
12. Install the *SD memory card*.
13. Install the *battery*.
14. Follow the procedures in *After Working Inside Your Computer*.

Removing The Speakers 18

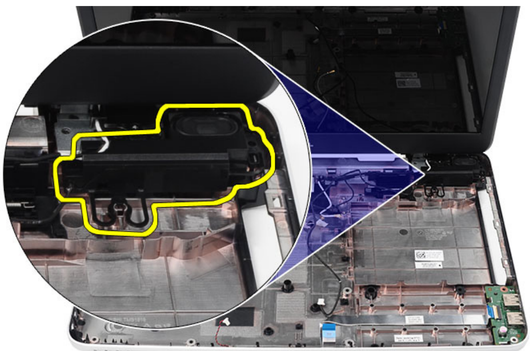
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *SD memory card*.
4. Remove the *keyboard*.
5. Remove the *optical drive*.
6. Remove the *memory module*.
7. Remove the *palm rest*.
8. Remove the *hard drive*.
9. Remove the *WLAN card*.
10. Remove the *CPU fan assembly and the heatsink*.
11. Remove the *system board*.
12. Release the speaker cable from the routing channel.



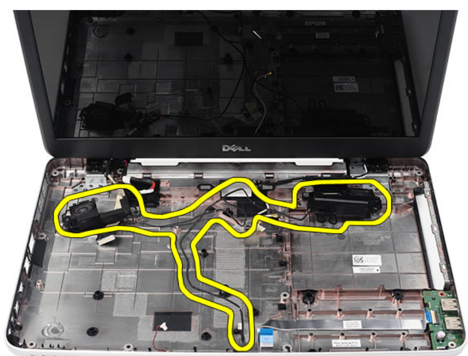
13. Press the securing latches and lift up the left speaker.



14. Press the securing latches and lift up the right speaker.



15. Remove the speaker assembly and the speaker cable from the computer.

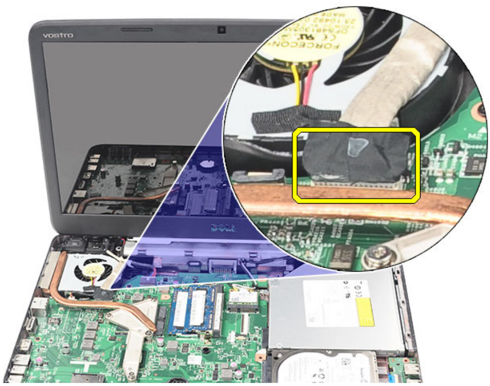


Installing The Speakers

1. Insert and attach the left and right speakers into their respective compartments.
2. Align and route the speaker cable to the chassis.
3. Install the *system board*.
4. Install the *processor*.
5. Install the *CPU fan assembly and the heatsink* .
6. Install the *WLAN card*.
7. Install the *hard drive*.
8. Install the *palm rest*.
9. Install the *memory module*.
10. Install the *optical drive*.
11. Install the *keyboard*.
12. Install the *SD memory card*.
13. Install the *battery*.
14. Follow the procedures in *After Working Inside Your Computer*.

Removing The Display Assembly 19

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *hinge cover*.
4. Remove the *keyboard*.
5. Remove the *palm rest*.
6. Disconnect the LVDS cable from the system board.



7. Disconnect the WLAN antennae and release it from the routing channel on the chassis.



8. Remove the screws that secure the left and right hinges.



9. Lift up the display assembly from the computer and remove.

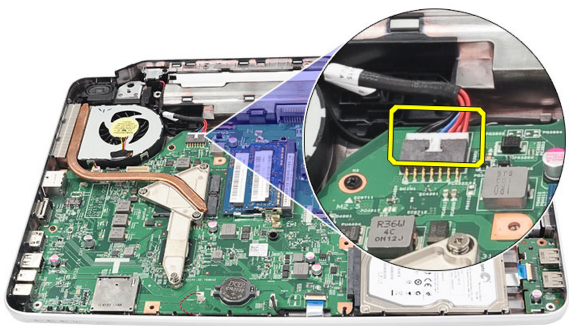


Installing The Display Assembly

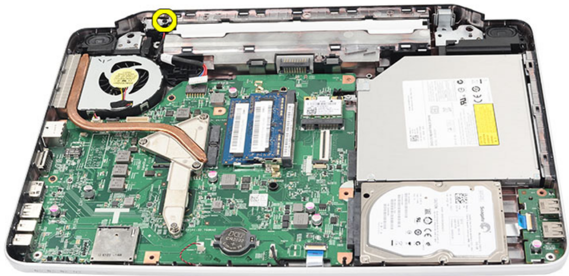
1. Insert the display assembly hinges into their holders.
2. Install the screws that secure both the hinges in place.
3. Connect the LVDS cable to the system board.
4. Align the WLAN antennae routing cable to its holder and connect the antennae to the WLAN card.
5. Connect the USB board cable.
6. Install the *palm rest*.
7. Install the *keyboard*.
8. Install the *hinge cover*.
9. Install the *battery*.
10. Follow the procedures in *After Working Inside Your Computer*.

Removing The DC-in Port And The Bracket 20

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *hinge cover*.
4. Remove the *keyboard*.
5. Remove the *palm rest*.
6. Remove the *display assembly*
7. Disconnect the DC-in cable from the system board.



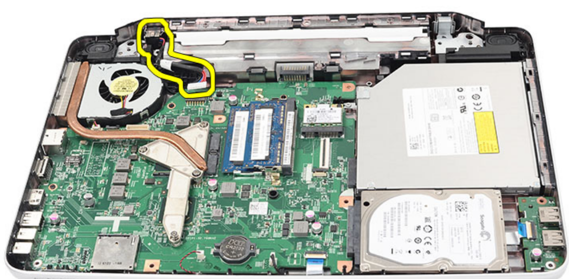
8. Remove the screw that secures the DC-in port and bracket.



9. Lift up the DC-in port bracket.



10. Lift up the DC-in port from the computer and remove.

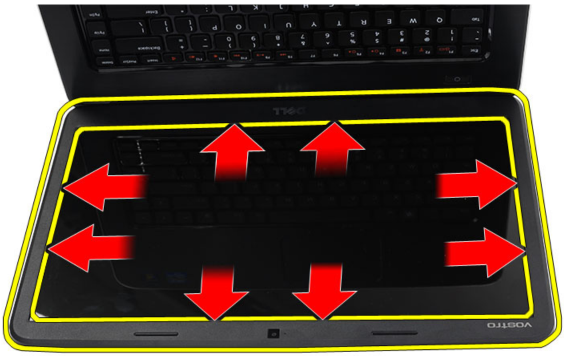


Installing The DC-in Port And Bracket

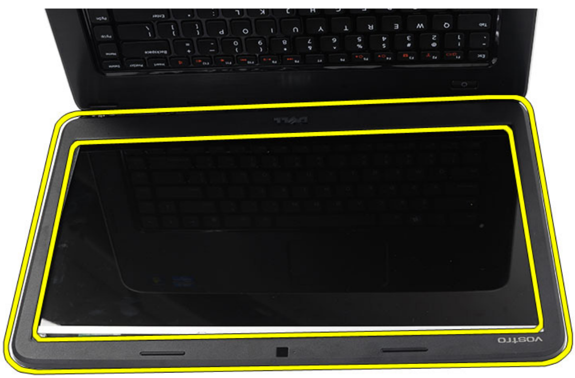
1. Insert the DC-in port and the bracket into its compartment.
2. Align the bracket and tighten the screw that secures the bracket and DC-in port.
3. Connect the DC-in cable to the system board.
4. Install the *display assembly*.
5. Install the *palm rest*.
6. Install the *keyboard*.
7. Install the *hinge cover*.
8. Install the *battery*.
9. Follow the procedures in *After Working Inside Your Computer*.

Removing The Display Bezel 21

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Starting from the bottom , pry the bezel inside out from the display assembly and work your way to the right and the left corners of the display bezel.



4. Remove the bezel from the display assembly once all the snaps have been loosened.



Installing The Display Bezel

1. Align the display bezel in line with the top cover.
2. Starting from the bottom edge, press downward on the display bezel to engage the tabs.
3. Install the *battery*.
4. Follow the procedures in *After Working Inside Your Computer*.

Removing The Camera

22

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *display bezel*.
4. Disconnect the camera cable from the camera module.



5. Pry the latch, lift up the camera, and remove.

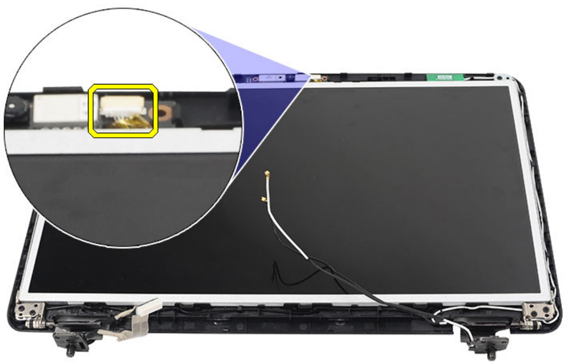


Installing The Camera

1. Insert and align the camera module to its compartment.
2. Connect the camera cable to the camera module.
3. Install the *display bezel*.
4. Install the *battery*.
5. Follow the procedures in *After Working Inside Your Computer*.

Removing The Display Panel 23

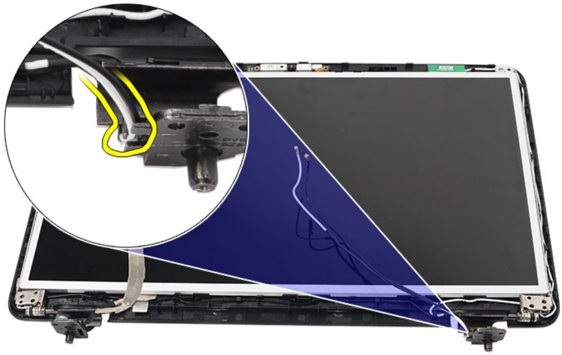
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *hinge cover*.
4. Remove the *keyboard*.
5. Remove the *palm rest*.
6. Remove the *display assembly*.
7. Remove the *display bezel*.
8. Disconnect the camera cable from the camera module.



9. Remove the screws that secure the display brackets and hinges.



10. Release the wireless antennae from the right hinge.



11. Release the LVDS cable from the left hinge.



12. Lift up the display panel and brackets from the display top cover.



13. Remove the screws on the left and right display brackets and remove the display panel.

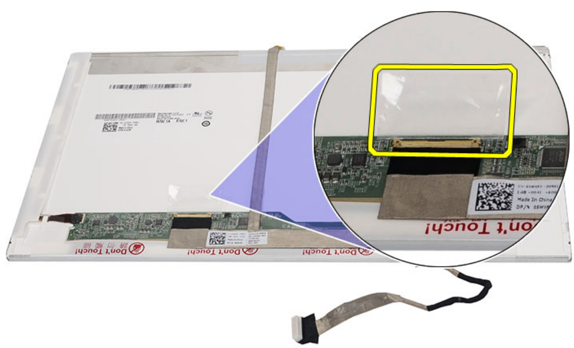


Installing The Display Panel

1. Attach the left and right brackets to the display panel and secure the screws.
2. Insert and route the display cable and wireless antennae to the left and right hinges.
3. Align the display panel with its brackets to the top cover.
4. Align the WLAN antennae routing cable to its holder and connect the antennae to the WLAN card.
5. Install the screws that secure the display panel and the brackets.
6. Connect the camera cable to the camera module.
7. Install the *display bezel*.
8. Install the *display assembly*.
9. Install the *palm rest*.
10. Install the *keyboard*.
11. Install the *hinge cover*.
12. Install the *battery*.
13. Follow the procedures in *After Working Inside Your Computer*.

Removing The Low-Voltage Differential Signaling (LVDS) Cable 24

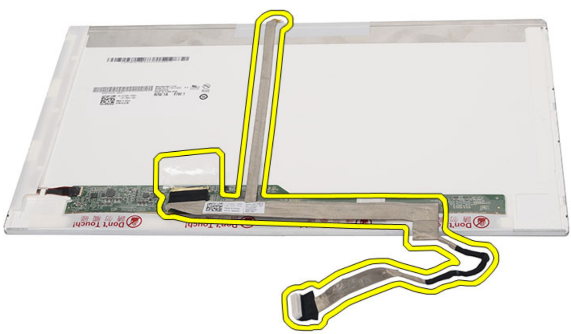
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *hinge cover*.
4. Remove the *keyboard*.
5. Remove the *optical drive*.
6. Remove the *palm rest*.
7. Remove the *display assembly*.
8. Remove the *display bezel*.
9. Remove the *display panel*.
10. Peel off the tape securing the LVDS cable connection.



11. Disconnect the LVDS cable from the display panel.



12. peel off the entire display cable from the adhesive affixing it to the display panel.



Installing The Low-Voltage Differential Signaling (LVDS) Cable

1. Attach the display cable to the display panel.
2. Connect the display cable connector to the display panel and affix the tape to secure it.
3. Install the *display panel*.
4. Install the *display bezel*.
5. Install the *display assembly*.
6. Install the *palm rest*.
7. Install the *optical drive*.
8. Install the *keyboard*.
9. Install the *hinge cover*.
10. Install the *battery*.
11. Follow the procedures in *After Working Inside Your Computer*.

Entering System Setup 25

1. Turn on (or restart) your computer.
2. When the blue DELL logo is displayed, you must watch for the F2 prompt to appear.
3. Once the F2 prompt appears, press <F2> immediately.

NOTE: The F2 prompt indicates that the keyboard has initialized. This prompt can appear very quickly, so you must watch for it to display, and then press <F2> . If you press <F2> before you are prompted, this keystroke will be lost.

4. If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop. Then, shut down your computer and try again.

System Setup Overview

System Setup allows you to:

- change the system configuration information after you add, change, or remove any hardware in your computer.
- set or change a user-selectable option such as the user password.
- read the current amount of memory or set the type of hard drive installed.

Before you use System Setup, it is recommended that you write down the System Setup screen information for future reference.

CAUTION: Unless you are an expert computer user, do not change the settings for this program. Certain changes can cause your computer to work incorrectly.

System Setup Screens

Menu	Appears on top of the System Setup window. This field provides a menu to access the System Setup options. Press < Left Arrow > and < Right Arrow > keys to navigate. As a **Menu** option is highlighted, the **Options List** lists the options that define the hardware installed on your computer.
Options List	Appears on top of the System Setup window. This field provides a menu to access the System Setup options. Press < Left Arrow >

	and < Right Arrow > keys to navigate. As a **Menu** option is highlighted, the **Options List** lists the options that define the hardware installed on your computer.
Options Field	Appears on the right side of **Options List** and contains information about each option listed in the **Options List** . In this field you can view information about your computer and make changes to your current settings. Press < Enter> to make changes to your current settings. Press <ESC> to return to the **Options List**.

NOTE: Not all settings listed in the Options Field are changeable.

Help	Appears on the right side of the System Setup window and contains help information about the option selected in **Options List** .

Use the following keys to navigate through the System Setup screens:

Keystroke	Action
< F2 >	Displays information on any selected item in the System Setup.
< Esc >	Exit from current view or switch the current view to the **Exit** page in the System Setup.
< Up Arrow > or < Down Arrow >	Select an item to display.
< Left Arrow > or < Right Arrow >	Select a menu to display.
– or +	Change existing item value.
< Enter >	Select the sub menu or execute command.
< F9 >	Load setup default.
< F10 >	Save current configuration and exit System Setup.

System Setup Options

Main

System Information	Displays the computer model number.
System Date	Re-sets the date on the computer's internal calendar.

System Time	Re-sets the time on the computer's internal clock.
BIOS Version	Displays the BIOS revision.
Product Name	Displays the product name and the model number.
Service Tag	Displays the service tag of your computer.
Asset Tag	Displays the asset tag of your computer (if available).
CPU Type	Displays the type of processor.
CPU Speed	Displays the speed of the processor.
CPU ID	Displays the processor ID.
L1 Cache Size	Displays the processor L1 cache size.
L2 Cache Size	Displays the processor L2 cache size.
L3 Cache Size	Displays the processor L3 cache size.
Extended Memory	Displays the memory installed on the computer.
System Memory	Displays the memory in-built on the computer.
Memory Speed	Displays the memory speed.
Fixed HDD	Displays the model number and capacity of the hard drive.
SATA ODD	Displays the model number and capacity of the optical drive.
AC Adapter Type	Displays the type of the AC adapter.

Advanced

Intel SpeedStep	Enable or disable the Intel SpeedStep feature.	Default: Enabled
Virtualization	Enable or disable the Intel Virtualization feature.	Default: Enabled
Integrated NIC	Enable or disable the power supply to the on–board network card.	Default: Enabled

USB Emulation	Enable or disable the USB emulation feature.	Default: Enabled
USB Wake Support	Allows USB devices to wake-up the computer from standby. This feature is enabled only when the AC adapter is connected.	Default: Disabled
SATA Operation	Change the SATA controller mode to either ATA or AHCI.	Default: AHCI
Adapter Warnings	Enables or disables adapter warnings.	Default: Enabled
Function Key Behavior	Specifies the behavior of the function key <Fn> .	Default: Function key first
Charger Behavior	Specifies if the computer battery will be charged when connected to an AC power source.	Default: Enabled
Miscellaneous Devices	These fields let you enable or disable various on-board devices.	

Security

Set Service Tag	This field displays your system's service tag. If the service tag is not already set, this field can be used to enter it.
Set Supervisor Password	Allows you to change or delete the administrator password.
Set HDD Password	Allows you to set a password on the computer's internal hard drive (HDD).
Password Bypass	Allows you to bypass the system password and the internal HDD password prompts during a system restart/resume from hibernate state.
Computrace	Enable or disable the Computrace feature on your computer.

Boot

Boot Priority Order	Specifies the order of different devices in which the computer will boot through at start up.
Hard Disk Drives	Specifies which hard drive the computer can boot through.
USB Storage Device	Specifies which USB storage device the computer can boot through.
CD/DVD ROM Drives	Specifies which CD/DVD the computer can boot through.
Network	Specifies which network device the computer can boot through.

Exit

This section allows you to save, discard, and load default settings before exiting from System Setup.

Diagnostic Beep Codes 26

The computer may emit a series of beeps during start-up if the display cannot show errors or problems. These series of beeps, called beep codes, identify various problems. The delay between each beep is 300 ms, the delay between each set of beeps is 3 seconds, and the beep sound lasts 300 ms. After each beep and each set of beeps, the BIOS should detect if the user presses the power button. If so, BIOS will jump out from looping and execute the normal shutdown process and power system.

Code	Cause and Troubleshooting Steps
1	BIOS ROM checksum in progress or failure System board failure, covers BIOS corruption or ROM error
2	No RAM detected No memory detected
3	Chipset Error (North and South Bridge Chipset, DMA/IMR/ Timer Error) , Time-Of-Day Clock test failure , Gate A20 failure , Super I/O chip failure , Keyboard controller test failure System board failure
4	RAM Read/Write failure Memory failure
5	Real-time clock power fail CMOS battery failure
6	Video BIOS test failure Video card failure
7	Processor failure Processor failure
8	Display Display failure

Battery Status Lights

If the computer is connected to an electrical outlet, the battery light operates as follows:

- **Alternately blinking amber light and white light** — An unauthenticated or unsupported non-Dell AC adapter is attached to your laptop.
- **Alternately blinking amber light with steady white light** — Temporary battery failure with AC adapter present.
- **Constantly blinking amber light** — Fatal battery failure with AC adapter present.
- **Light off** — Battery in full charge mode with AC adapter present.
- **White light on** — Battery in charge mode with AC adapter present.

Device Status Lights

Turns on when you turn on the computer and blinks when the computer is in a power management mode.

Turns on when the computer reads or writes data.

Turns on steadily or blinks to indicate battery charge status.

Turns on when wireless networking is enabled.

Specifications 27

NOTE: Offerings may vary by region. The following specifications are only those required by law to ship with your computer. For more information regarding the configuration of your computer, click **Start** → **Help and Support** and select the option to view information about your computer.

System Information	
Chipset	
Vostro 1450/Vostro 1550	Intel HM67
Vostro 1440/Vostro 1540	Intel HM57
DRAM bus width	64-bit
Flash EPROM	SPI 32 Mbits

Processor	
Types	• Intel Celeron • Intel Core i3 series • Intel Core i5 series
L2 cache	up to 6 MB
External bus frequency	1333 MHz

Memory	
Memory connector	two SODIMM slots
Memory capacity	1 GB, 2 GB, or 4 GB
Memory type	DDR3 SDRAM (1333 MHz)
Minimum memory	1 GB
Maximum memory	8 GB

Audio	
Type	2.1 channel high definition audio

Audio	
Controller	IDT 92HD87B1
Stereo conversion	24-bit (analog-to-digital and digital-to-analog)
Interface:	
Internal	high definition audio
External	microphone-in/stereo headphones/external speakers connector
Speakers	2 x 2 Watt
Volume controls	keyboard function keys and program menus

Video	
Video type	• integrated on system board • discrete
Data bus:	
UMA	integrated video
Discrete	• PCI-E x16 Gen1 • PCI-E x16 Gen2
Video controller:	
UMA	Intel HD Graphics
Vostro 1450/Vostro 1550	• Intel HD Graphics • Intel HD Graphics 3000
Vostro 1440/Vostro 1540	Intel HD graphics
Discrete	
Vostro 1440	AMD Radeon HD6450M
Vostro 1450	AMD Radeon HD6470M

Camera	
Camera Resolution	1.3 Megapixel

Camera	
Video Resolution	640 x 480 at 30 fps (Maximum)

Communications	
Network adapter	10/100/1000 Mbps Ethernet LAN
Wireless	internal wireless local area network (WLAN)

Ports and Connectors	
Audio	one microphone connector; one stereo headphone/speakers connector
Video	• one 15-pin VGA connector • one 19-pin HDMI connector
Network adapter	one RJ-45 connector
USB	three 4-pin USB 2.0-compliant connectors
Media card reader	one 3-in-1 (SD/MMC/MS)

Display	
Type	HD WLED TrueLife; HD WLED AG
Size	
Vostro 1440/Vostro 1450	14.0”
Vostro 1540/Vostro 1550	15.0”
Dimensions: Vostro 1440/Vostro 1450	
Height	192.50 mm (7.58 inches)
Width	324.00 mm (12.76 inches)
Diagonal	355.60 mm (14.00 inches)
Active area (X/Y)	344.23 mm x 193.54 mm
Dimensions: Vostro 1540/Vostro 1550	
Height	193.50 mm (7.62 inches)
Width	344.20 mm (13.55 inches)

Display	
Diagonal	396.24 mm (15.60 inches)
Active area (X/Y)	344.23 mm x 193.54 mm
Maximum resolution	1366 x 768 pixels at 262K colors
Maximum Brightness	220 nits
Operating angle	0° (closed) to 140°
Refresh rate	60 Hz
Minimum Viewing angles:	
Horizontal	40/40
Vertical	15/30 (H/L)
Pixel pitch	0.23 mm x 0.23 mm

Keyboard	
Number of keys:	United States and Canada: 86 keys, Europe and Brazil: 87 keys, Japan: 90 keys

Touchpad	
Active Area:	
X-axis	90.00 mm (3.54 inches)
Y-axis	49.00 mm (1.93 inches)

Battery	
Type	6-cell lithium ion (2.20 Whr)
Dimensions:	
Height	20.20 mm (0.80 inch)
Width	208.36 mm (8.20 inches)
Depth	56.52 mm (2.22 inches)
Weight	0.33 kg (0.73 lb)
Charge time	approximately 4 hours (when the computer is turned off)

Battery	
Voltage	11.1 VDC
Temperature range:	
Operating	0 °C to 35 °C (32 °F to 95 °F)
Non-Operating	–40 °C to 65 °C (–40 °F to 149 °F)
Coin-cell battery	3 V CR2032 lithium coin cell

AC Adapter	
Type:	
Vostro 1440 / Vostro 1450 / Vostro 1540 / Vostro 1550 with integrated video card	65 W
Vostro 1440 with discrete video card	65 W
Vostro 1450 with discrete video card	90 W
Input voltage	100 VAC to 240 VAC
Input current (maximum)	1.50 A/1.60 A/1.70 A/2.10 A
Input frequency	50 Hz to 60 Hz
Output power	65 W and 90 W
Output current	
65 W	3.34 A (continuous)
90 W	4.62 A
Rated output voltage	19.50 VDC (+/ 1.0 VDC)
Dimensions:	
Height	28.20 mm (1.11 inches)
Width	57.90 mm (2.28 inches)
Depth	137.16 mm (5.40 inches)
Temperature range:	

AC Adapter	
Operating	0 °C to 40 °C (32 °F to 104 °F)
Non-Operating	–40 °C to 70 °C (–40 °F to 158 °F)

Physical	
Vostro 1440 / Vostro 1450:	
Height (with a WLED panel)	31.50 mm to 34.70 mm (1.24 inches to 1.36 inches)
Width	342.00 mm (13.46 inches)
Depth	244 mm (9.60 inches)
Weight (Minimum)	2.2 kg (4.85 lb)
Vostro 1540 / Vostro 1550:	
Height (with a WLED panel)	31.50 mm to 34.50 mm (1.24 inches to 1.35 inches)
Width	376.00 mm (14.80 inches)
Depth	260 mm (10.23 inches)
Weight (Minimum)	2.37 kg (5.22 lb)

Environmental	
Temperature:	
Operating	0 °C to 35 °C (32 °F to 95 °F)
Storage	–40 °C to 65 °C (–40 °F to 149 °F)
Relative humidity (maximum):	
Operating	10 % to 90 % (noncondensing)
Storage	5 % to 95 % (noncondensing)
Altitude (maximum):	
Operating	–15.2 m to 3048 m (–50 ft to 10,000 ft)
Non-Operating	–15.2 m to 10,668 m (–50 ft to 35,000 ft)
Airborne contaminant level	G1 as defined by ISA-71.04–1985

Contacting Dell 28

Contacting Dell

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Visit **support.dell.com**.
2. Select your support category.
3. If you are not a U.S. customer, select your country code at the bottom of the page, or select **All** to see more choices.
4. Select the appropriate service or support link based on your need.